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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,831	01/18/2002	Toru Aoki	111469	6928

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2674

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DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,831

Applicant(s)

AOKI ET AL.

Examiner

Jennifer T Nguyen

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2002.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 16-18 is/are allowed.
6) ☒ Claim(s) 1,2,6,7,12-14 and 19-22 is/are rejected.
7) ☒ Claim(s) 3-5,8-11 and 15 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6, 12, 13, and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Naka et al. (US Patent No. 5,990,968).

Regarding claim 1, referring to Figs. 1 and 6-9, Naka teaches an image processing circuit, comprising: a control-signal generating device (i.e., controller 21) that generates a control signal (i.e., cont) indicating the type of an electro-optical panel used in combination with the image processing circuit (18); a D/A conversion device (7) that converts input image data from a digital signal to an analog signal to generate an image signal and that adjusts a range where the signal level of the image signal is changed (i.e., white-level or black-level element), according to the control signal; and a processing device (i.e., video processing device 18) that generates an output image signal to be sent to the electro-optical panel, according to the image signal (col. 4, line 12 to col. 5, line 5, col. 6, lines 26-54, from col. 12, line 44 to col. 13, line 10).

Regarding claims 6, 12, referring to Figs. 1 and 6-9, Naka teaches an image processing circuit, comprising: a control-signal generating device (i.e., controller 21) that generates a control signal indicating the type of input image data; a data conversion device (13) that converts the data values of the input image data into data values related thereto in advance, according to the control signal to generate converted image data; a D/A converter (7) that converts the converted

Art Unit: 2674

image data from a digital signal to an analog signal to generate an image signal and that adjusts a range where the signal level of the image signal is changed (i.e., white-level or black-level element), according to the control signal; and a processing device (i.e., video processing device 18) that generates an output image signal to be sent to an electro-optical panel, according to the image signal (col. 4, line 12 to col. 5, line 5, col. 6, lines 26-54, from col. 12, line 44 to col. 13, line 10, and col. 16, lines 26-63).

Regarding claim 13, Naka further teaches the mean value generating device calculating the mean gray scale value of an image according to input image data in one screen (from col. 9, line 30 to col. 10, line 65).

Regarding claims 19 and 20, Naka further teaches an electro-optical panel having an electro-optical material in which a transmittance of the electro-optical material is changed according to an applied voltage, and receiving the output image signal (col. 4, line 12 to col. 5, line 5, col. 6, lines 26-54, from col. 12, line 44 to col. 13, line 10).

Regarding claim 21, Naka further teaches a personal computer comprising an electro-optical device (col. 4, lines 12-18).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 7, 14, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naka et al. (US Patent No. 5,990,968) in view of Sakashita (US Patent No. 6,724,381).

Regarding claims 2, 7, and 14, Naka further teaches a reference-signal generating section (9) that generates a first reference voltage and a second reference voltage (i.e., reference signal ADR with difference proper values) according to the control signal, and that alternately selects one of the first reference voltage and the second reference voltage at the inversion period to generate a reference signal; and an output-image-signal generating section (5) that synthesizes the inverted image signal with the reference signal to generate the output image signal from col. 7, line 34 to col. 9, line 12 and col. 10, lines 28-65).

Naka differs from claims 2, 7, and 14 in that he does not specifically teach an image-signal inversion section that inverts a signal polarity of the image signal at an inversion period determined in advance, with a certain potential being used as a reference while amplifying the image signal to generate an inverted image signal. However, referring to Figs. 9 and 10, Sakashita teaches an image-signal inversion section (1310) that inverts a signal polarity of the image signal at an inversion period determined in advance, with a certain potential being used as a reference while amplifying the image signal to generate an inverted image signal (col. 9, lines 8-31). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the image-signal inversion section as taught by Sakashita in the system of Naka in order to provide high definition image display device with minimum voltage required.

Regarding claim 22, the combination of Naka and Sakashita teaches a projection-type display apparatus, comprising: a light source; an electro-optical device that modulates light emitted from the light source; and a projection-lens system that projects light emitted from the electro-optical device (col. 9, lines 8-52 of Sakashita).

Art Unit: 2674

5. Claims 3-5, 8-11, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 16-18 are allowed.

7. The prior art made of record and not relied upon is considered to pertinent applicant's disclosure.

Shibamiya et al. (U.S. Patent No. 5,926,714) teaches display apparatus capable of image display for video signals.

Koike et al. (U.S. Patent No. 6,538,648) teaches display device.

Owada et al. (U.S. Patent No. 5,528,307) teaches clock generator.

Sagawa et al. (U.S. Patent No. 6,452,526) video signal processing circuit.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**.

The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC. 20231


Or faxed to: 703-872-9306 (for Technology Center 2600 only)

Art Unit: 2674

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

JNguyen
08/11/2004


REGINA LIANG
PRIMARY EXAMINER